2. 테이블 스페이스 레벨로 데이터 이관

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> 💡 순서
>
>   1. PROD DB 의 SYS계정에서 ts8100 테이블 스페이스 생성
>
>   2. scott에서 emp8100테이블을 PROD DB 쪽에 생성
>
>   3. shm2 로 테이틀 스페이스 레벨로 데이터 이관

1. **orcl DB와 ASM 인스턴스를 모두 내립니다.(실습 하려는 db를 제외하고 모두 내리기)**

   - 올라와 있는지 확인

   ```
   [PROD:~]$ ps -ef | grep pmon
   oracle    5144     1  0 09:36 ?        00:00:00 ora_pmon_shm
   oracle    5300     1  0 09:37 ?        00:00:00 asm_pmon_+ASM
   oracle    5443     1  0 09:37 ?        00:00:00 ora_pmon_orcl
   oracle   12612  5664  0 10:06 pts/1    00:00:00 grep pmon
   ```


   - **orcl DB 내리기**

   ```
   [PROD:~]$ . oraenv
   ORACLE_SID = [PROD] ? orcl
   The Oracle base for ORACLE_HOME=/u01/app/oracle/product/11.2.0/dbhome_1 is
   [orcl:~]$
   [orcl:~]$
   [orcl:~]$ ss

   SQL*Plus: Release 11.2.0.1.0 Production on Thu Feb 22 10:07:10 2024
   ```

```
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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Partitioning, Automatic Storage Management, OLAP, Data Mining
and Real Application Testing options

orcl SYS > shutdown immediate
Database closed.
Database dismounted.
ORACLE instance shut down.
```

```
[PROD:~]$ . oraenv
ORACLE_SID = [PROD] ? orcl
The Oracle base for ORACLE_HOME=/u01/app/oracle/product/11.2.0/dbhome_1 is /u01/app/oracle
[orcl:~]$
[orcl:~]$
[orcl:~]$ ss

SQL*Plus: Release 11.2.0.1.0 Production on Thu Feb 22 10:07:10 2024

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Partitioning, Automatic Storage Management, OLAP, Data Mining
and Real Application Testing options

orcl SYS > shutdown immediate
Database closed.
Database dismounted.
ORACLE instance shut down.
```

- **ASM instance 내리기**

```
[orcl:~]$ . oraenv
ORACLE_SID = [orcl] ? +ASM
The Oracle base for ORACLE_HOME=/u01/app/oracle/product/11.2.0/grid is /u0

[+ASM:~]$ sqlplus / as sysasm

SQL*Plus: Release 11.2.0.1.0 Production on Thu Feb 22 10:08:19 2024

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Automatic Storage Management option

SQL>
SQL> shutdown immediate
```

```
ASM diskgroups dismounted
ASM instance shutdown
```


- **확인하기**

```
[+ASM:~]$ ps -ef | grep pmon
oracle    5144     1  0 09:36 ?        00:00:00 ora_pmon_shm
oracle  14045  5664  0 10:10 pts/1     00:00:00 grep pmon
```


- shmDB 내리기

```
[shm2:~]$ . oraenv
ORACLE_SID = [shm2] ? shm
The Oracle base for ORACLE_HOME=/u01/app/oracle/product/11.2.0/dbhome_1 is
[shm:~]$
[shm:~]$ ss

SQL*Plus: Release 11.2.0.1.0 Production on Thu Feb 22 10:37:25 2024

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Partitioning, OLAP, Data Mining and Real Application Testing opti

shm SYS >
shm SYS > shutdown immediate
Database closed.
```

```
Database dismounted.
ORACLE instance shut down.
```



```
[shm2:~]$ . oraenv
ORACLE_SID = [shm2] ? shm
The Oracle base for ORACLE_HOME=/u01/app/oracle/product/11.2.0/dbhome_1 is /u01/app/oracle
[shm:~]$
[shm:~]$ ss

SQL*Plus: Release 11.2.0.1.0 Production on Thu Feb 22 10:37:25 2024

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

shm SYS >
shm SYS > shutdown immediate
Database closed.
Database dismounted.
ORACLE instance shut down.
```

2. **PROD DB와 shm2 DB 를 올립니다.**

- **PROD DB 올리기**

```
[orcl:~]$ . oraenv
ORACLE_SID = [orcl] ? PROD
ORACLE_HOME = [/home/oracle] ? /u01/app/oracle/product/11.2.0/dbhome_1
The Oracle base for ORACLE_HOME=/u01/app/oracle/product/11.2.0/dbhome_1 is
[PROD:~]$
[PROD:~]$
[PROD:~]$
[PROD:~]$
[PROD:~]$ ps -ef | grep pmon
oracle    5144     1  0 09:36 ?        00:00:00 ora_pmon_shm
oracle   14501  5664  0 10:11 pts/1    00:00:00 grep pmon
[PROD:~]$
[PROD:~]$ ss

SQL*Plus: Release 11.2.0.1.0 Production on Thu Feb 22 10:11:49 2024


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Connected to an idle instance.  ==> 올라오지 않은 instance에 접속했다는 의미


PROD SYS >
PROD SYS > startup
ORACLE instance started.


Total System Global Area  535662592 bytes
Fixed Size                  1337720 bytes
Variable Size             436209288 bytes
```

```
Database Buffers               92274688 bytes
Redo Buffers                    5840896 bytes
Database mounted.
Database opened.
```

```
[orcl:~]$ . oraenv
ORACLE_SID = [orcl] ? PROD
ORACLE_HOME = [/home/oracle] ? /u01/app/oracle/product/11.2.0/dbhome_1
The Oracle base for ORACLE_HOME=/u01/app/oracle/product/11.2.0/dbhome_1 is /u01/app/oracle
[PROD:~]$
[PROD:~]$
[PROD:~]$
[PROD:~]$
[PROD:~]$ ps -ef | grep pmon
oracle    5144     1  0 09:36 ?        00:00:00 ora_pmon_shm
oracle   14501  5664  0 10:11 pts/1    00:00:00 grep pmon
[PROD:~]$
[PROD:~]$ ss

SQL*Plus: Release 11.2.0.1.0 Production on Thu Feb 22 10:11:49 2024

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Connected to an idle instance.

PROD SYS >
PROD SYS > startup
ORACLE instance started.

Total System Global Area  535662592 bytes
Fixed Size                  1337720 bytes
Variable Size             436209288 bytes
Database Buffers           92274688 bytes
Redo Buffers                5840896 bytes
Database mounted.
Database opened.
```

- **shm2 DB 올리기**

```
[orcl:~]$ . oraenv
ORACLE_SID = [orcl] ? shm2
ORACLE_HOME = [/home/oracle] ? /u01/app/oracle/product/11.2.0/dbhome_1
The Oracle base for ORACLE_HOME=/u01/app/oracle/product/11.2.0/dbhome_1 is
[shm2:~]$
[shm2:~]$
[shm2:~]$ ss

SQL*Plus: Release 11.2.0.1.0 Production on Thu Feb 22 10:23:52 2024

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Connected to an idle instance.

shm2 SYS >
shm2 SYS > startup
ORACLE instance started.

Total System Global Area  267825152 bytes
```

```
 Fixed Size                    1335924 bytes
 Variable Size                92278156 bytes
 Database Buffers            167772160 bytes
 Redo Buffers                  6438912 bytes
 Database mounted.
 Database opened.
```


- 확인하기

```
[shm:~]$ ps -ef | grep pmon
oracle   14556      1  0 10:11 ?        00:00:00 ora_pmon_PROD
oracle   19275      1  0 10:23 ?        00:00:00 ora_pmon_shm2
oracle   24775   5664  0 10:38 pts/1    00:00:00 grep pmon
```


3. **작업 전 반드시 확인해야할 사항을 체크합니다.**

   a. PROD DB와 shm2 DB 간의 character set이 서로 일치하는지 확인해야합니다

      - PROD DB의 character set 확인.

```
@dbp
```

```
PROD SYS > @dbp

PROPERTY_NAME                         PROPERTY_VALUE
```

```
------------------------------------ --------------------------
DICT.BASE                            2
DEFAULT_TEMP_TABLESPACE              TEMP3
DEFAULT_PERMANENT_TABLESPACE         EXAMPLE
DEFAULT_EDITION                      ORA$BASE
Flashback Timestamp TimeZone         GMT
TDE_MASTER_KEY_ID
DBTIMEZONE                           +09:00
DST_UPGRADE_STATE                    NONE
DST_PRIMARY_TT_VERSION               11
DST_SECONDARY_TT_VERSION             0
DEFAULT_TBS_TYPE                     SMALLFILE


PROPERTY_NAME                        PROPERTY_VALUE
------------------------------------ --------------------------
NLS_LANGUAGE                         AMERICAN
NLS_TERRITORY                        AMERICA
NLS_CURRENCY                         $
NLS_ISO_CURRENCY                     AMERICA
NLS_NUMERIC_CHARACTERS               .,
NLS_CHARACTERSET                     US7ASCII
NLS_CALENDAR                         GREGORIAN
NLS_DATE_FORMAT                      DD-MON-RR
NLS_DATE_LANGUAGE                    AMERICAN
NLS_SORT                             BINARY
NLS_TIME_FORMAT                      HH.MI.SSXFF AM


PROPERTY_NAME                        PROPERTY_VALUE
------------------------------------ --------------------------
NLS_TIMESTAMP_FORMAT                 DD-MON-RR HH.MI.SSXFF AM
NLS_TIME_TZ_FORMAT                   HH.MI.SSXFF AM TZR
NLS_TIMESTAMP_TZ_FORMAT              DD-MON-RR HH.MI.SSXFF AM
                                     TZR

NLS_DUAL_CURRENCY                    $
NLS_COMP                             BINARY
NLS_LENGTH_SEMANTICS                 BYTE
NLS_NCHAR_CONV_EXCP                  FALSE
NLS_NCHAR_CHARACTERSET               AL16UTF16
NLS_RDBMS_VERSION                    11.2.0.1.0


PROPERTY_NAME                        PROPERTY_VALUE
------------------------------------ --------------------------
GLOBAL_DB_NAME                       PROD
EXPORT_VIEWS_VERSION                 8
WORKLOAD_CAPTURE_MODE
WORKLOAD_REPLAY_MODE
```

NO_USERID_VERIFIER_SALT	9874C0A11FFC8053D22E809A7 CBED71F

```
PROD SYS > @dbp

PROPERTY_NAME                       PROPERTY_VALUE
---------------------------------   ------------------------
DICT.BASE                           2
DEFAULT_TEMP_TABLESPACE             TEMP3
DEFAULT_PERMANENT_TABLESPACE        EXAMPLE
DEFAULT_EDITION                     ORA$BASE
Flashback Timestamp TimeZone        GMT
TDE_MASTER_KEY_ID
DBTIMEZONE                          +09:00
DST_UPGRADE_STATE                   NONE
DST_PRIMARY_TT_VERSION              11
DST_SECONDARY_TT_VERSION            0
DEFAULT_TBS_TYPE                    SMALLFILE

PROPERTY_NAME                       PROPERTY_VALUE
---------------------------------   ------------------------
NLS_LANGUAGE                        AMERICAN
NLS_TERRITORY                       AMERICA
NLS_CURRENCY                        $
NLS_ISO_CURRENCY                    AMERICA
NLS_NUMERIC_CHARACTERS              .,
NLS_CHARACTERSET                    US7ASCII
NLS_CALENDAR                        GREGORIAN
NLS_DATE_FORMAT                     DD-MON-RR
NLS_DATE_LANGUAGE                   AMERICAN
NLS_SORT                            BINARY
NLS_TIME_FORMAT                     HH.MI.SSXFF AM

PROPERTY_NAME                       PROPERTY_VALUE
---------------------------------   ------------------------
NLS_TIMESTAMP_FORMAT                DD-MON-RR HH.MI.SSXFF AM
NLS_TIME_TZ_FORMAT                  HH.MI.SSXFF AM TZR
NLS_TIMESTAMP_TZ_FORMAT             DD-MON-RR HH.MI.SSXFF AM
                                    TZR

NLS_DUAL_CURRENCY                   $
NLS_COMP                            BINARY
NLS_LENGTH_SEMANTICS                BYTE
NLS_NCHAR_CONV_EXCP                 FALSE
NLS_NCHAR_CHARACTERSET              AL16UTF16
NLS_RDBMS_VERSION                   11.2.0.1.0

PROPERTY_NAME                       PROPERTY_VALUE
---------------------------------   ------------------------
GLOBAL_DB_NAME                      PROD
EXPORT_VIEWS_VERSION                8
WORKLOAD_CAPTURE_MODE
WORKLOAD_REPLAY_MODE
NO_USERID_VERIFIER_SALT             9874C0A11FFC8053D22E809A7
                                    CBED71F
```

- shm2 DB의 character set확인

```
shm2 SYS > startup
ORACLE instance started.

Total System Global Area  267825152 bytes
Fixed Size                  1335924 bytes
Variable Size              92278156 bytes
Database Buffers          167772160 bytes
```

```
Redo Buffers                    6438912 bytes
Database mounted.
Database opened.
shm2 SYS >
shm2 SYS > @dbp


PROPERTY_NAME                    PROPERTY_VALUE
-------------------------------- -------------------------
DICT.BASE                        2
DEFAULT_TEMP_TABLESPACE          TEMP
DEFAULT_PERMANENT_TABLESPACE     SYSTEM
DEFAULT_EDITION                  ORA$BASE
Flashback Timestamp TimeZone     GMT
TDE_MASTER_KEY_ID
DBTIMEZONE                       +09:00
DST_UPGRADE_STATE                NONE
DST_PRIMARY_TT_VERSION           11
DST_SECONDARY_TT_VERSION         0
DEFAULT_TBS_TYPE                 SMALLFILE


PROPERTY_NAME                    PROPERTY_VALUE
-------------------------------- -------------------------
NLS_LANGUAGE                     AMERICAN
NLS_TERRITORY                    AMERICA
NLS_CURRENCY                     $
NLS_ISO_CURRENCY                 AMERICA
NLS_NUMERIC_CHARACTERS           .,
NLS_CHARACTERSET                 US7ASCII
NLS_CALENDAR                     GREGORIAN
NLS_DATE_FORMAT                  DD-MON-RR
NLS_DATE_LANGUAGE                AMERICAN
NLS_SORT                         BINARY
NLS_TIME_FORMAT                  HH.MI.SSXFF AM


PROPERTY_NAME                    PROPERTY_VALUE
-------------------------------- -------------------------
NLS_TIMESTAMP_FORMAT             DD-MON-RR HH.MI.SSXFF AM
NLS_TIME_TZ_FORMAT               HH.MI.SSXFF AM TZR
NLS_TIMESTAMP_TZ_FORMAT          DD-MON-RR HH.MI.SSXFF AM
                                 TZR


NLS_DUAL_CURRENCY                $
NLS_COMP                         BINARY
NLS_LENGTH_SEMANTICS             BYTE
NLS_NCHAR_CONV_EXCP              FALSE
NLS_NCHAR_CHARACTERSET           AL16UTF16
NLS_RDBMS_VERSION                11.2.0.1.0
```

```
PROPERTY_NAME                       PROPERTY_VALUE
----------------------------------  --------------------------
GLOBAL_DB_NAME                      SHM2
EXPORT_VIEWS_VERSION                8
WORKLOAD_CAPTURE_MODE
WORKLOAD_REPLAY_MODE
NO_USERID_VERIFIER_SALT             9001F3A321B6113779F49EEB1
                                    E0B6779


36 rows selected.
```

```
shm2 SYS > @dbp
PROPERTY_NAME                       PROPERTY_VALUE
----------------------------------  --------------------------
DICT.BASE                           2
DEFAULT_TEMP_TABLESPACE             TEMP
DEFAULT_PERMANENT_TABLESPACE        SYSTEM
DEFAULT_EDITION                     ORA$BASE
Flashback Timestamp TimeZone        GMT
TDE_MASTER_KEY_ID
DBTIMEZONE                          +09:00
DST_UPGRADE_STATE                   NONE
DST_PRIMARY_TT_VERSION              11
DST_SECONDARY_TT_VERSION            0
DEFAULT_TBS_TYPE                    SMALLFILE

PROPERTY_NAME                       PROPERTY_VALUE
----------------------------------  --------------------------
NLS_LANGUAGE                        AMERICAN
NLS_TERRITORY                       AMERICA
NLS_CURRENCY                        $
NLS_ISO_CURRENCY                    AMERICA
NLS_NUMERIC_CHARACTERS              .,
NLS_CHARACTERSET                    US7ASCII
NLS_CALENDAR                        GREGORIAN
NLS_DATE_FORMAT                     DD-MON-RR
NLS_DATE_LANGUAGE                   AMERICAN
NLS_SORT                            BINARY
NLS_TIME_FORMAT                     HH.MI.SSXFF AM

PROPERTY_NAME                       PROPERTY_VALUE
----------------------------------  --------------------------
NLS_TIMESTAMP_FORMAT                DD-MON-RR HH.MI.SSXFF AM
NLS_TIME_TZ_FORMAT                  HH.MI.SSXFF AM TZR
NLS_TIMESTAMP_TZ_FORMAT             DD-MON-RR HH.MI.SSXFF AM
                                    TZR

NLS_DUAL_CURRENCY                   $
NLS_COMP                            BINARY
NLS_LENGTH_SEMANTICS                BYTE
NLS_NCHAR_CONV_EXCP                 FALSE
NLS_NCHAR_CHARACTERSET              AL16UTF16
NLS_RDBMS_VERSION                   11.2.0.1.0

PROPERTY_NAME                       PROPERTY_VALUE
----------------------------------  --------------------------
GLOBAL_DB_NAME                      SHM2
EXPORT_VIEWS_VERSION                8
WORKLOAD_CAPTURE_MODE
WORKLOAD_REPLAY_MODE
NO_USERID_VERIFIER_SALT             9001F3A321B6113779F49EEB1
                                    E0B6779


36 rows selected.
```

4. PROD DB에서 ts8100이라는 테이블 스페이스를 생성합니다.

　a. 테이블 스페이스 생성할 위치 확인(원하는 경로 골라서 생성 시 활용)

```
PROD SYS > @tablespace

TABLESPACE STATUS     FILE_NAME
---------- --------- -------------------------------------------------------
SYSTEM     AVAILABLE /u01/app/oracle/oradata/PROD/disk1/system01.dbf
SYSAUX     AVAILABLE /u01/app/oracle/oradata/PROD/disk2/sysaux01.dbf
UNDOTBS    AVAILABLE /u01/app/oracle/oradata/PROD/disk4/undotbs01.dbf
TEST100    AVAILABLE /u01/app/oracle/oradata/PROD/disk1/test100a.dbf
EXAMPLE    AVAILABLE /u01/app/oracle/oradata/PROD/disk1/example.dbf
TEST100    AVAILABLE /u01/app/oracle/oradata/PROD/disk1/test100b.dbf
TEST100    AVAILABLE /u01/app/oracle/oradata/PROD/disk1/test100c.dbf
TS100      AVAILABLE /u01/app/oracle/oradata/PROD/disk1/ts100.dbf
SHM        AVAILABLE /home/oracle/shm01.dbf
INSA01     AVAILABLE /home/oracle/insa01a.dbf
HR01       AVAILABLE /u01/app/oracle/oradata/PROD/disk1/hr01.dbf


TABLESPACE STATUS     FILE_NAME
---------- --------- -------------------------------------------------------
TS501      AVAILABLE /u01/app/oracle/oradata/PROD/disk1/PROD/datafile/o1_m
TS501      AVAILABLE /u01/app/oracle/oradata/PROD/disk1/PROD/datafile/o1_m
TEST5000   AVAILABLE /home/oracle/test5000.dbf
TS7000     AVAILABLE /home/oracle/ts7000.dbf
INSA02     AVAILABLE /home/oracle/insa02b.dbf
UNDOTBS7   AVAILABLE /home/oracle/undotbs7a.dbf
SMALL_UNDO AVAILABLE /home/oracle/small_undo.dbf


TABLESPACE STATUS     FILE_NAME
---------- --------- -------------------------------------------------------
UNDOTBS9   AVAILABLE /home/oracle/undotbs9a.dbf
SYSTEM     AVAILABLE /u01/app/oracle/oradata/PROD/disk1/system02.dbf
SYSAUX     AVAILABLE /u01/app/oracle/oradata/PROD/disk2/sysaux02.dbf
TS50       AVAILABLE /home/oracle/ts50.dbf
TS5000     AVAILABLE /home/oracle/ts5000.dbf
EXAMPLE    AVAILABLE /u01/app/oracle/oradata/PROD/disk1/example2.dbf
EXAMPLE    AVAILABLE /u01/app/oracle/oradata/PROD/disk1/example3.dbf
```

```
PROD SYS > @tablespace

TABLESPACE STATUS     FILE_NAME
---------- ---------  ------------------------------------------------
SYSTEM     AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/system01.dbf
SYSAUX     AVAILABLE  /u01/app/oracle/oradata/PROD/disk2/sysaux01.dbf
UNDOTBS    AVAILABLE  /u01/app/oracle/oradata/PROD/disk4/undotbs01.dbf
TEST100    AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/test100a.dbf
EXAMPLE    AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/example.dbf
TEST100    AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/test100b.dbf
TEST100    AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/test100c.dbf
TS100      AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/ts100.dbf
SHM        AVAILABLE  /home/oracle/shm01.dbf
INSA01     AVAILABLE  /home/oracle/insa01a.dbf
HR01       AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/hr01.dbf

TABLESPACE STATUS     FILE_NAME
---------- ---------  ------------------------------------------------
TS501      AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/PROD/datafile/o1_mf_
                      ts501_lwop91gn_.dbf

TS501      AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/PROD/datafile/o1_mf_
                      ts501_lwopk2tw_.dbf

TEST5000   AVAILABLE  /home/oracle/test5000.dbf
TS7000     AVAILABLE  /home/oracle/ts7000.dbf
INSA02     AVAILABLE  /home/oracle/insa02b.dbf
UNDOTBS7   AVAILABLE  /home/oracle/undotbs7a.dbf
SMALL_UNDO AVAILABLE  /home/oracle/small_undo.dbf

TABLESPACE STATUS     FILE_NAME
---------- ---------  ------------------------------------------------
UNDOTBS9   AVAILABLE  /home/oracle/undotbs9a.dbf
SYSTEM     AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/system02.dbf
SYSAUX     AVAILABLE  /u01/app/oracle/oradata/PROD/disk2/sysaux02.dbf
TS50       AVAILABLE  /home/oracle/ts50.dbf
TS5000     AVAILABLE  /home/oracle/ts5000.dbf
EXAMPLE    AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/example2.dbf
EXAMPLE    AVAILABLE  /u01/app/oracle/oradata/PROD/disk1/example3.dbf

25 rows selected.
```

b. 테이블 스페이스 생성

```
PROD SYS >
create tablespace ts8100
    datafile '/u01/app/oracle/oradata/PROD/disk1/ts8100.dbf' size 5m;
```

```
PROD SYS > create tablespace ts8100
        datafile '/u01/app/oracle/oradata/PROD/disk1/ts8100.dbf' size 5m;
Tablespace created.
```

5. **PROD DB의 SCOTT 유저에서 ts8100 테이블 스페이스에 emp8100 테이블을 생성합니다.**

   a. SYS에서 만들면 데이터 이관 시 에러 발생

```
PROD SCOTT >

connect scott/tiger
```

```
create table emp8100
( empno number(10),
    ename varchar2(20) )
tablespace ts8100;
```


6. **emp8100에 데이터 입력을 반복합니다.**

```
PROD SCOTT >

insert into emp8100 values(111,'aaa');
commit;
insert into emp8100 values(111,'aaa');
commit;
insert into emp8100 values(111,'aaa');
commit;
```


7. **PROD DB의 SYS유저에서 ts8100 테이블 스페이스를 read only로 변경합니다.**

   a. 데이터를 이관하는 과정에서 데이터의 변경이나 손상이 발생할 수 있기 때문에 방지하기 위해서 read only로 변경해줘야함

```
PROD SCOTT > connect / as sysdba

PROD SYS >
alter tablespace ts8100 read only;
```



```
PROD SYS >

select t.name, d.enabled
    from v$tablespace t, v$datafile d
    where t.ts# = d.ts#;
```

```
PROD SYS > alter tablespace ts8100 read only;

Tablespace altered.

PROD SYS > select t.name, d.enabled
        from v$tablespace t, v$datafile d
        where t.ts# = d.ts#;  2    3

NAME                           ENABLED
------------------------------ ----------
SYSTEM                         READ WRITE
SYSAUX                         READ WRITE
UNDOTBS                        READ WRITE
TEST100                        READ WRITE
EXAMPLE                        READ WRITE
TEST100                        READ WRITE
TEST100                        READ WRITE
TS100                          READ WRITE
SHM                            READ WRITE
INSA01                         READ WRITE
HR01                           READ WRITE

NAME                           ENABLED
------------------------------ ----------
TS501                          READ WRITE
TS501                          READ WRITE
TEST5000                       READ WRITE
TS7000                         READ WRITE
INSA02                         READ WRITE
```

```
UNDOTBS7                        READ WRITE
SMALL_UNDO                      READ WRITE
UNDOTBS9                        READ WRITE
SYSTEM                          READ WRITE
SYSAUX                          READ WRITE
TS50                            READ WRITE


NAME                            ENABLED
------------------------------  ----------
TS5000                          READ WRITE
EXAMPLE                         READ WRITE
EXAMPLE                         READ WRITE
TS7100                          READ WRITE
TS8100                          READ ONLY


27 rows selected.
```


8. **ts8100 테이블 스페이스를 tablesapce 단위로 export 합니다.**

```
$ exp transport_tablespace=y tablespaces=ts8100 file=ts8100.dmp


-----이렇게 수행하면 유저이름과 패스워드를 물어봅니다. ------
유저이름 : sys as sysdba
패스워드 : oracle
-----------------------------------------------------------
따라서 수행 전에 유저이름과 패스워드를 확실하게 알아둬야함
```

`transport_tablespace=y` : 테이블 스페이스 레벨로 데이터 이관하는 옵션

```
[PROD:~]$ exp transport_tablespace=y tablespaces=ts8100 file=ts8100.dmp


Export: Release 11.2.0.1.0 - Production on Thu Feb 22 11:59:22 2024


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Username: sys as sysdba
Password:  암호 입력 보이지 않으니 주의


Connected to: Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 -
With the Partitioning, OLAP, Data Mining and Real Application Testing opti
Export done in US7ASCII character set and AL16UTF16 NCHAR character set
Note: table data (rows) will not be exported
About to export transportable tablespace metadata...
For tablespace TS8100 ...
. exporting cluster definitions
. exporting table definitions
. . exporting table                        EMP8100
. exporting referential integrity constraints
. exporting triggers
. end transportable tablespace metadata export
Export terminated successfully without warnings.
```

```
[PROD:~]$ exp transport_tablespace=y tablespaces=ts8100 file=ts8100.dmp

Export: Release 11.2.0.1.0 - Production on Thu Feb 22 11:59:22 2024

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Username: sys as sysdba
Password:

Connected to: Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
Export done in US7ASCII character set and AL16UTF16 NCHAR character set
Note: table data (rows) will not be exported
About to export transportable tablespace metadata...
For tablespace TS8100 ...
. exporting cluster definitions
. exporting table definitions
. . exporting table                        EMP8100
. exporting referential integrity constraints
. exporting triggers
. end transportable tablespace metadata export
Export terminated successfully without warnings.
```

9. **2개의 파일을 준비합니다.(export 파일과 ts8100.dbf 파일) ➔ 잘 있는지 확인**

   a. ts8100.dmp : export 한 덤프 파일이 /home/oracle 아래에 있는지만 확인하면 됨

   b. ts8100.dbf : data file

   - ts8100.dmp 파일은 /home/oracle 밑에 있는지만 확인하면 됩니다

```
[PROD:~]$ ls -l ts8100.dmp
-rw-r--r-- 1 oracle oinstall 16384  2월 22 11:59 ts8100.dmp

[PROD:~]$ ls -l /u01/app/oracle/oradata/PROD/disk1/ts8100.dbf
-rw-r----- 1 oracle dba 5251072  2월 22 11:57 /u01/app/oracle/oradata/PROD,
```

```
[PROD:~]$ ls -l ts8100.dmp
-rw-r--r-- 1 oracle oinstall 16384  2월  22 11:59 ts8100.dmp
[PROD:~]$
[PROD:~]$ ls -l /u01/app/oracle/oradata/PROD/disk1/ts8100.dbf
-rw-r----- 1 oracle dba 5251072  2월  22 11:57 /u01/app/oracle/oradata/PROD/disk1/ts8100.dbf
```

10. **2개의 파일을 shm2 DB 의 데이터가 있는 디렉토리로 copy 합니다.**

    a. ts8100.dbf만 이동!

    b. ts8100.dmp는 local로 할거라서 짝꿍이랑 해볼것. 이기 때문에!

```
$ cp /u01/app/oracle/oradata/PROD/disk1/ts8100.dbf /u01/app/oracle/oradata

$ ls -l /u01/app/oracle/oradata/shm2/disk1/ts8100.dbf
```

```
[PROD:~]$ cp /u01/app/oracle/oradata/PROD/disk1/ts8100.dbf /u01/app/oracle

[PROD:~]$ ls -l /u01/app/oracle/oradata/shm2/disk1/ts8100.dbf
-rw-r----- 1 oracle oinstall 5251072  2월 22 12:01 /u01/app/oracle/oradata.
```


11. `.oraenv` **로 instance를 shm2 DB 로 변경합니다.**

```
$ .oraenv
    ORACLE_SID? shm2
```

```
[orcl:~]$ . oraenv
ORACLE_SID = [orcl] ? shm2
ORACLE_HOME = [/home/oracle] ? /u01/app/oracle/product/11.2.0/dbhome_1
The Oracle base for ORACLE_HOME=/u01/app/oracle/product/11.2.0/dbhome_1 is
[shm2:~]$
```


12. **shm2 DB에서 IMPORT 명령어로 TABLESPACE LEVEL로 IMPORT합니다.**

   a. 명령어 간격은 한칸만 주기(민감하기 때문)

   b. datafiles에는 import 받을 DB의 DATAFILE경로를 넣어주면 됨

   c. scott유저가 없으면 scott 유저를 생성해줘야함. 없으면 에러 발생!(dba권한도 있는지 확인)

```
$ imp transport_tablespace=y file=ts8100.dmp datafiles='/u01/app/oracle/or

--------import하면 shm2 DB의 유저이름과 패스워드 물어봄--------------
유저이름 : sys as sysdba
패스워드 : oracle
-----------------------------------------------------------------


[shm2:~]$ imp transport_tablespace=y file=ts8100.dmp datafiles='/u01/app/o

Import: Release 11.2.0.1.0 - Production on Thu Feb 22 12:02:52 2024
```

```
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Username: sys as sysdba
Password: 암호 입력 보이지 않으니 주의


Connected to: Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 -
With the Partitioning, OLAP, Data Mining and Real Application Testing opti

Export file created by EXPORT:V11.02.00 via conventional path
About to import transportable tablespace(s) metadata...
import done in US7ASCII character set and AL16UTF16 NCHAR character set
. importing SYS's objects into SYS
. importing SYS's objects into SYS
. importing SCOTT's objects into SCOTT
. . importing table                      "EMP8100"
. importing SYS's objects into SYS
Import terminated successfully without warnings.
[shm2:~]$
```


13. **shm2 DB에 IMPORT가 잘 되었는지 확인합니다.**

```
shm2 SYS > @tablespace

TABLESPACE STATUS     FILE_NAME
---------- --------- -------------------------------------------------------
SYSTEM     AVAILABLE /u01/app/oracle/oradata/shm2/disk1/system01.dbf
SYSAUX     AVAILABLE /u01/app/oracle/oradata/shm2/disk2/sysaux01.dbf
UNDOTBS    AVAILABLE /u01/app/oracle/oradata/shm2/disk4/undotbs01.dbf
TS7100     AVAILABLE /u01/app/oracle/oradata/shm2/disk1/ts7100.dbf
TS8100     AVAILABLE /u01/app/oracle/oradata/shm2/disk1/ts8100.dbf
```

```
shm2 SYS > @tablespace

TABLESPACE STATUS    FILE_NAME
---------- --------- ---------------------------------------------
SYSTEM     AVAILABLE /u01/app/oracle/oradata/shm2/disk1/system01.dbf
SYSAUX     AVAILABLE /u01/app/oracle/oradata/shm2/disk2/sysaux01.dbf
UNDOTBS    AVAILABLE /u01/app/oracle/oradata/shm2/disk4/undotbs01.dbf
TS7100     AVAILABLE /u01/app/oracle/oradata/shm2/disk1/ts7100.dbf
TS8100     AVAILABLE /u01/app/oracle/oradata/shm2/disk1/ts8100.dbf
```

14. **shm2 DB SYS유저에서 ts7100 테이블 스페이스를 read write로 변경합니다.**

```
shm2 SYS >

alter tablespace ts8100 read write;
```

```
shm2 SYS > alter tablespace ts8100 read write;
Tablespace altered.
```

15. **PROD DB의 SYS유저에서 ts7100테이블 스페이스를 read write 변경**

```
PROD SYS >

alter tablespace ts8100 read write;
```

```
PROD SYS > alter tablespace ts8100 read write;
Tablespace altered.
```